

Abstract

For radio transmission on the downlink the transmit power must be calculated also for that signals which shall be sent on the common physical channel, known as secondary common control physical channel (SCCPCH), in the Frequency Division Duplex mode of the Universal Mobile Telecommunications System. In the case where no data is transmitted in a SCCPCH frame, the transmit power level is not defined for SCCPCH data bits. Therefore the well-known adaptation of the TFCI and Pilot powers cannot be applied.

The solution proposed here is to set or change the transmit indicator power of the TFCI indicator bits in dependence from a virtual reference power which is calculated from parameters comprising first power values preferably defined by the radio network controller (CRNC) or comprising second power values representing an average of that transmit powers which have been used to transmit that data within at least two of the preceding frames. The virtual reference power can also be a fixed power value which is signalled by the radio network controller or which is a hard-coded value stored in the base station. An advantage of is that the TFCI and the Pilot powers can both be calculated very easily by adapting them to the virtual reference power in the same manner as this is done in the normal case with respect to the data bit power.